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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/018,033	05/15/2002	Seiji Kobayashi	113184-066	1721

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EXAMINER

JANKUS, ALMIS R

ART UNIT	PAPER NUMBER
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2671

DATE MAILED: 03/12/2004 7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/018,033

Applicant(s)

KOBAYASHI, SEIJI

Examiner

Almis R Jankus

Art Unit

2671

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-13, 15-23 and 25-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-9, 11-13, 16-19, 21-23 and 26-29 is/are rejected.
- 7) ☒ Claim(s) 5, 10, 15, 20, 25 and 30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 May 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-3, 5-13, 15-23, and 25-30 are presented for examination.
2. The amendment of 12/10/01, canceling claims 4, 14, and 24, has been entered in part.
3. A substitute specification excluding the claims is required pursuant to 37 CFR 1.125(a) because the number of amendments render it difficult to consider the application.

A substitute specification filed under 37 CFR 1.125(a) must only contain subject matter from the original specification and any previously entered amendment under 37 CFR 1.121. If the substitute specification contains additional subject matter not of record, the substitute specification must be filed under 37 CFR 1.125(b) and (c).
4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3, 6-9, 11-13, 16-19, 21-23, and 26-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Usami et al.

With respect to claim 1, Usami et al. teach the claimed "image processing apparatus for synthesizing a hair image with a three-dimensional shape image of a head part, to generate a hair-style-matched image, comprising: storage means for storing a hair-style data piece", at figure 1a, at figure 13 item 38, and at column 8 line 65 to column 9 line 23; "constructed by plural hair data pieces arranged on a two-dimensional array", at figure 1a, figure 4, and at column 4 lines 42-45 and 47-48 with "the hair model 1 under an actual physical environment is modeled in the manner illustrated in FIGS. 2A, 2B and 2C showing a definition of a two-dimensional hair model" and "Each of the hair model 1 is assumed to be a rod element having the same cross sectional area" (note "each of the hair model 1 at figure 1a). It is also to be noted here that a two dimensional coordinate system is a two-dimensional array of values, thus, it is inherent that a two-dimensional model is arranged on a two-dimensional array. The claimed "read out means for reading out the hair-style data piece stored in the storage means" is shown at figure 13 item 33; "mapping means for mapping the hair data piece corresponding to a hair contained in the hair-style data piece read out by the read out means, at a predetermined position on the three-dimensional shape image of the head part", at column 4 lines 48-51 with "One end point of this hair element is assumed to be fixed to the pore 3. The axial direction of the hair model 1 is the direction thereof

extending from the pore 3" and at column 14 lines 51-53 with "define a hair generation point of a respective one of said rod-shaped hair elements as a pore, determine said hair generation point as a fixed point". The claimed "three-dimensional shape image of the head part" is taught at column 9 lines 27-28 with "a three-dimensional model of a human head is defined", and at figures 6-9; the "predetermined position" being the "pore". Usami et al. further teach the claimed "generation means for generating the hair-style-matched image, based on a mapping result obtained by the mapping means" at column 8 lines 27-64.

Claim 2 further requires the image processing apparatus according to claim 1, wherein the hair data piece is three-dimensional curve data which is constructed by a plurality of control points. Although "control points" are usually associated with, for example, parametric curves, Bezier curves, etc., in the broadest sense "control points" are those points whose positions associated with a smooth curve or piece-wise linear curve control the shape of the curve. Usami et al. teach control points, in the broadest sense, at figures 3, 4, 8, 9, and 17.

Claim 3 further requires the image processing apparatus according to claim 1, wherein the hair data piece is polygon data which is constructed by a plurality of polygons. Usami et al. teach this at column 1 lines 11-16.

Claim 6 further requires the image processing apparatus according to claim 1, further comprising interpolation means for interpolating the hair data piece at the predetermined position, with use of a hair data piece close to the predetermined position. Usami et al. teach this at figure 16 item 42.

Claim 7 further requires the image processing apparatus according to claim 6, wherein the interpolation means interpolates the hair data piece, based on group information contained in the hair data piece close to the predetermined position. Usami et al. teach this at column 2 lines 66-68 with "interpolating the motions of obtained elastic body curves to generate the motions of other elastic bodies" and at column 11 line 40 to column 12 line 21.

Claim 8 further requires the image processing apparatus according to claim 1, wherein the mapping means includes coordinate conversion means for converting the hair data piece expressed by a first coordinate system into data of a second coordinate system by which the three-dimensional shape image of the head part is expressed. Usami et al. teach this at column 8 lines 60-64 with "the obtained hair model 1 is transformed into, for example, three-dimensional line segment data, by using a Z buffer algorithm or the like, and displayed on a screen. At step 110, the head model 1a of polygon data is displayed."

Claim 9 further requires the image processing apparatus according to claim 8, wherein the coordinate conversion means converts the hair data piece expressed by the first coordinate system into data of a local coordinate system having an origin on a surface of the head part, and thereafter converts the data into data of the second coordinate system by which the three-dimensional shape image of the head part is expressed. Usami et al. teach this at column 5 line 41 to column 6 line 26. The first coordinate system is expressed by the (x0, y0) axes, at figure 4; the local coordinate system is expressed by the (X, Y) axes, at figure 4; and the second coordinate system is shown at figure 5.

Claims 11-13, 16-19 are similar to claims 1-3, 6-9 respectively, but are in method form rather than apparatus. The rationale applied to the rejection of claims 1-3, 6-9 also applies to the rejection of claims 11-13, 16-19 because the methods claimed are the same as the methods performed by the apparatus.

Claims 21-23, 26-29 are similar to claims 1-3, 6-9 respectively, but require a recording medium for storing a computer program performing the functions recited. Usami et al. teach the claimed recording medium at column 9 lines 13-17. The rationale applied to the rejection of claims 1-3, 6-9 also applies to the rejection of claims 21-23, 26-29 because the stored functions claimed are the same as the functions performed by the apparatus.

6. Claims 5, 10, 15, 20, 25, and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: With respect to claims 5, 15, and 25, the prior art of record does not fairly teach the claimed "storage means stores the hair-style data piece constructed by plural data pieces arranged on a two-dimensional array corresponding to a projected image obtained by projecting a three-dimensional hair style expressed by a columnar coordinate system, on a two-dimensional coordinate system"; and, with respect to claims 10, 20, and 30, the prior art of record does not fairly teach the claimed "the coordinate conversion means executes at least one of coordinate axis rotation and origin shift, based on a random number".


8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Almis R Jankus whose telephone number is 703-305-9795. The examiner can normally be reached on M-F, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Zimmerman can be reached on 703-305-9798. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2671

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AJ



ALVIN R. JANKUS
PRIMARY EXAMINER